Dated: May 11, 1992.

Richard N. Smith,

Acting Director, Fish and Wildlife Service.

[FR Doc. 92-12149 Filed 5-22-92; 8:45 am]

BILLING CODE 4310-55-M

50 CFR Part 17

RIN 1018-AB75

Endangered and Threatened Wildlife and Plants; Proposal to List the Carolina Heelsplitter as an Endangered Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Proposed rule.

SUMMARY: The Service proposes to list the Carolina heelsplitter *(Lasmigona decorata)* as an endangered species under the Endangered Species Act of 1973, as amended (Act). This species was historically known from several locations within the Catawba River and Pee Dee River systems in North Carolina and the Saluna and Pee Dee River systems in South Carolina. It is presently known to be surviving in only a few short reaches of Waxhaw Creek (Catawba River system) and Goose Creek (Pee Dee River system) in North Carolina, and the Lynches River (Pee Dee River system) and Flat Creek, a tributory to the Lynches River, in South Carolina. The species' range has been seriously reduced by impoundments and general deterioration of habitat and

water quality resulting from siltation and other pollutants contributed by poor land use practices. Due to the speices' limited distribution, any factors that adversely modify habitat or water quality in the stream reaches it now inhabits could further endanger the species. Comments and information pertaining to this proposal are sought from the public.

DATES: Comments from all interested parties must be received by July 27, 1992. Public hearing requests must be received by July 10, 1992.

ADDRESSES: Comments and materials concerning this proposal should be sent to the Field Supervisor, U.S. Fish and Wildlife Service, 330 Ridgefield Court, Asheville, North Carolina 28806. Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Mr. John Frideli at the above address (704/665-1195).

SUPPLEMENTARY INFORMATION:

Background

The Carolina heelsplitter was originally described as *Unio decoratus* by Lea (1852). In 1970, this species was synonyomized with *Lasmigona subviridis* (Conrad 1835) by Johnson (1970). Clarke (1985) recognized the Carolina heelsplitter as a distinct species, *Lasmigona decorata*, and synonymized *Unio charlottensis* (Lea 1863) and *Unio insolidus* (Lea 1872) with *Lasmigona decorata*.

The Carolina heelsplitter has an ovate, trapezoid-shaped, unsculptured shell. The shell of the largest known specimen of the species measures 118.0 mm in length, 40 mm in width, and 63.5 mm in height (Keferl 1991). The shell's outer surface varies from greenish-brown to dark brown in color, and shells from younger specimen have faint greenish-brown or black rays. The nacre (inside surface) is often pearly-white to bluish-white, grading to orange in the area of the umbo (Keferl 1991). However, in older specimens the entire nacre may be mottled pale orange (Keferl 1991).

Because of its rarity, little is known of the biology of the Carolina heelspliter. Historically the species was reported from small to large streams and rivers, as well as ponds. The "ponds" referred to in historic records are believed to have been mill ponds on some of the smaller streams within the species' historic range (Keferl 1991). Presently, the species is known to occur in only three small streams and one small river and is usually found in mud, muddy sand, or muddy gravel substrates along stable, well-shaded streambanks (Keferl and Shelly 1988, Keferl 1991). The stability of streambanks appears to be very important to the species (Keferl 1991). Like other freshwater mussels, the Carolina heelsplitter feeds by filtering food particles from the water. It has a complex reproductive cycle in which the mussel larvae (glochidia) parasitize fish. The mussel's life span, fish species its larvae parasitize, and many other aspects of its life history are unknown.

Prior to 1987, the Carolinia heelspliter had not been found since the mid-19th century (Keferl and Shelly 1988, Keferl 1991). Historically, the species was collected from the Catawba River, Mecklenberg County, North Carolina; several streams and "ponds" in the Catawba River system around the Charlotte area of Mecklenberg County, North Carolina; one small stream in the Pee Dee River system in Cabarrus County, North Carolina; and an area in South Carolina referred to as the "Abbeville District," a terminology no longer employed (Clarke 1985, Keferl and Shelly 1988, Keferl 1991). The records from the Abeville District, South Carolina, are believed to have been from the Saluda River system (Clarke 1985, Keferl and Shelly 1988, Keferl 1991).

During the period of 1987-1990, the Service funded status surveys of the Carolina heelsplitter to determine the species' present status. Altogether, 667 different sites in 356 different rivers, streams, and impoundments within historic and potential habitat of the species in the Saluda River, Catawba River, Pee Dee River, Broad River, Rocky River, and Lynches River systems were intensively surveyed (Keferl and Shelly 1988, Keferl 1991). The Carolina heelsplitter was found to have been eliminated from all the streams from which it was known to have been historically collected, and only three surviving populations were found. One small remnant population was found in the Catawba River system in Waxhaw Creek, a tributary to the Catawba River, in Union County, North Carolina; another small population was discovered in a short stretch of Goose Creek, a tributary to the Rocky River in the Pee Dee River system, in Union County, North Carolina; and a third, slightly larger, population was discovered in the Lynches River, part of the Pee Dee River system, in Chesterfield, Lancaster, and Kershaw Counties, South Carolina, and Flat Creek, a tributary to the Lynches River in Lancaster County, South Carolina. No evidence of a surviving population was found anywhere in the Saluda River system, and no evidence of the species was in the Broad River system.

Habitat and water quality degradation/alteration resulting from impoundments, stream channelization, dredging, sand mining, sewage effluents, and poorly implemented agricultural, forestry, and development practices are believed to be the primary factors resulting in the elimination of the species throughout the majority of its historic range. All three of the remaining populations discovered by Keferl (1991) are located in areas bordered entirely, with the exception of State bridge and road rights-of-way, by private lands and are threatened by these same factors. Both the Waxhaw Creek and Goose Creek populations are threatened by impacts associated with agriculture, logging, and construction and development activities. The Flat Creek portion of the Lynches River/Flat Creek population at present does not appear to be affected by human-related habitat destruction/alteration activities. However, the Lynches River is suffering the same problems occurring in the Waxhaw and Goose Creeks drainages, and this stream reach is also being impacted by heavy nutrient and pollutant loads from wastewater treatment plants, as well from other point and nonpoint sources.

The Carolina heelsplitter was recognized by the Service in the January 6, 1989, Federal Register (54(4):579) as a species being reviewed for potential addition to the Federal List of Endangered and Threatened Wildlife and Plants. This mussel was placed in category 2 on this candidate list. Category 2 species are those for which the Service has some information indicating that the taxa may be under threat, but sufficient information is lacking to prepare a proposed rule. The Service has met and been in contact with various knowledgeable Federal and State agency personnel and private individuals knowledgeable concerning the species' status. On March 8, 1990, and October 30, 1990, the Service notified appropriate Federal, State, and local governmental agencies in writing that a status review was being conducted and that the species might be proposed for Federal listing. Five written comments were received. The U.S. Army Corps of Engineers, State agencies in both North Carolina and South Carolina, and an interested biologist expressed their support of the species' being protected under the Endangered Species Act. No negative comments were received.

Summary of Factors Affecting the Species

Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal lists. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Carolina heelsplitter (*Lasmigona decorata*) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

Historic and recent collection records for the Carolina heelsplitter indicate that the species was once fairly widespread throughout portions of the Catawba River system in North Carolina, the Pee Dee River system in North and South Carolina, and the Saluda River system in South Carolina (Clarke 1985, Keferl and Shelly 1988, Keferl 1991). The species apparently no longer exists in the Saluda River system and, with the exception of a short stretch of Waxhaw Creek, has been eliminated from the Catawba River system (Keferl 1991). In the Pee Dee River system, only two small populations remain—the Goose Creek population and the Lynches River/Flat Creek population (Keferl 1991). This decline in the species throughout its range has been attributed to several factors, including siltation resulting from poorly implemented land use practices during agricultural, forestry, and construction activities; runoff and discharge of municipal, industrial, and agricultural pollutants; habitat alterations associated with impoundments, channelization, dredging, and sand mining operations; and other natural and human-related factors that adversely modify the aquatic environment. Many of these same factors threaten the three remaining populations of the species.

Both the Waxhaw Creek and Goose Creek populations are extremely small. Only one live individual of the species was found in Waxhaw Creek in 1987 and only two in 1990 (Keferl 1991). Three live specimens were found in Goose Creek in 1987, and only one was found in 1990 (Keferl 1991). Waxhaw Creek and Goose Creek are small streams containing only a limited amount of suitable habitat for the Carolina heelsplitter (E. Keferl, Brunswick College, personal communication, 1991). The Lynches River/Flat Creek population, though the healthiest of the three surviving populations, also appears to be relatively small and is restricted to a few scattered sites along a short reach of the Lynches River and a small section of Flat Creek (Keferl, personal communication, 1991). During the 1987–1990 surveys, a total of only 12 live specimens of the Carolina heelsplitter were found in the Lynches River, and only 2 live individuals were found in Flat Creek (both were found in 1990) (Keferl 1991). The low numbers of individuals and restricted range of the populations make each of the three remaining populations extremely vulnerable to extirpation from a single catastrophic event, such as a toxic chemical spill. Also, the existing and potential future land uses of the surrounding area threaten the habitat and water quality of all three populations with increased discharge or runoff of silt, sediments, and organic and chemical pollutants.

Of the four streams where the Carolina heelsplitter still occurs, only Flat Creek appears to be relatively undisturbed by human activities. Waxhaw Creek, Goose Creek, and the Lynches River flow through areas where they are subject to sedimentation and pollutants from agriculture and other farming activities (presently the primary land use within the watersheds of these streams). Also, all three streams drain areas that are currently receiving a rapid increase in development. In addition, poorly implemented logging activities, particularly along the Lynches River and Goose Creek, also appear to be having a detrimental effect on the streams. In some areas, trees and shrubs have been cleared right up to the streambanks, thereby increasing the siltation of the streams and adversely affecting shading of the streams and the stability of the streambanks.

Heavy nutrient and pollutant loads (i.e., fertilizers, organic wastes, pesticides, heavy metals, oil, salts, etc.) from wastewater treatment facility effluents, agricultural fields, urban and rural residential and industrial areas, highways, and other point and nonpoint sources also threaten the continued existence of the remaining populations. Though at present this appears to be more of a problem in the Lynches River than in the other streams, it will likely become more of a threat to the Goose Creek and Waxhaw Creek populations as development increases within their drainages.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

This freshwater mussel species is not commercially valuable, but, because it is extremely rare, it could be sought by collectors. Because of the species' restricted range, taking could be a threat to its continued existence. Federal listing would help control any indiscriminate taking of individuals.

C. Disease or Predation

Although the Carolina heelsplitter is presumably utilized for food by mammals, such as the muskrat, raccoon, and mink, predation is not thought to be a significant factor in the decline of the species.

D. The Inadequacy of Existing Regulatory Mechanisms

The States of North Carolina and South Carolina prohibit the taking of fishes and wildlife, including freshwater mussels, for scientific purposes without a State collecting permit. However, the species are not generally protected from other threats. Federal listing will provide additional protection under the Endangered Species Act by requiring Federal permits to take the species and by requiring Federal agencies to consult with the Service when actions they fund, authorize, or carry out are likely to adversely affect the species.

E. Other Natural or Manmade Factors Affecting its Continued Existence

Only three populations of the species are known to still exist—one population each in Waxhaw Creek and Goose Creek and one population in the Lynches River that extends into Flat Creek. All three populations appear to be extremely small (particularly the Waxhaw Creek and Goose Creek populations, which appear to be comprised of only a few individuals), and all three populations are geographically isolated from one another. This isolation prohibits the natural interchange of genetic material between populations, and the small population size reduces the reservoir of genetic variability within populations. It is highly possible that these populations may already be below the generally acceptable level required to maintain long-term genetic viability (Soulé 1980).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list the Carolina heelsplitter (*Lasmigona decorata*) as an

within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor, U.S. Fish and Wildlife Service, Asheville Field Office, 330 Ridgefield Court, Asheville, North Carolina 28806.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

References Cited

Clarke, A.H. 1985. The Tribe Alasmidontini (Unionidae: Anodontinae), Part II: *Lasmigona* and *Simpsonaias*. Smithsonian Contributions to Zoology, (399):57–60. Smithsonian Institution Press, 75 pp., 22 figures, 14 tables.

Conrad, T.A. 1835. Appendix (*to*: New Fresh Water Shells of the United States with colored illustrations, and a monograph of the genus *Anculotus* of Say; also a synopsis of the American naiades. 76 pp.) Additions to, and corrections of, the catalogue of species of American naiades, with descriptions of new species and varieties of fresh water shells. Judah Dobson, Philadelphia, PA, p. 4, pl. 9, fig. 1.

Johnson, R.I. 1970. The Systematics and Zoogeography of the Unionidae (Mollusca: Bivalvia) of the Southern Atlantic Slope Region. Bulletin of the Museum of Comparative Zoology, Harvard University, 140(6):263–449.

Keferl, E.P. 1991. A Status Survey for the Carolina Heelsplitter (*Lasmigona decorata*), a Freshwater Mussel Endemic to the Carolinas. Unpublished report to the U.S. Department of the Interior, Fish and Wildlife Service. 51 pp.

Keferl, E.P., and R.M. Shelly, 1988. The Final Report on a Status Survey of the Carolina Heelsplitter, *Lasmigona decorata*, and the Carolina Elktoe, *Alasmidonta robusta*. Unpublished report to the U.S. Department of the Interior, Fish and Wildlife Service. 47 pp.

Lea, I. 1852. Description of New Species of the family Unionidae. Transactions of the American Philosophical Society, 10:253–294 (Reprinted in 1852 in Observations on the Genus Unio, 5:9–50).

Lea, I. 1863. Description of Twenty-four New Species of Unionidae of the United States. Proceedings of the Academy of Natural Sciences of Philadelphia, 15:191–194.

Lea, I. 1872. Description of Twenty-nine New Species of Unionidae of the United States. Proceedings of the Academy of Natural Sciences of Philadelphia, 24:155–161.

Soulé, M.E. 1980. Threshold for Survival: Maintaining Fitness and Evolutionary Potential. Pages 151–169 IN: M.E. Soulé and B.A. Wilcox (eds.), Conservation Biology. Sinauer Assoc., Inc., Sunderland, MA.

Author

The primary author of this proposed rule is John A. Fridell, U.S. Fish and Wildlife Service, Asheville Field Office, 330 Ridgefield Court, Asheville, North Carolina 28806 (704/665–1195).

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 16 U.S.C. 1531–1544; 16 U.S.C. 4201–4245; Pub. L. 99–265, 100 stat. 3500; unless otherwise noted.

2. It is proposed to amend § 17.11(h) by adding the following, in alphabetical order under "CLAMS," to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
Clams:							
*	*	*	*	*	*	*	
Heelsplitter, Carolina	*Lasmigona decorata*	U.S.A. (NC, SC)		NA E		NA	NA
*	*	*	*	*	*	*	